Finding of No Significant Impact

Flamingo Potable Water System Improvement Project

Everglades National Park
Monroe County, Florida

United States Department of the Interior
National Park Service

September 2002

FINDING OF NO SIGNIFICANT IMPACT/DECISION NOTICE
For the
FLAMINGO POTABLE WATER SYSTEM IMPROVEMENT PROJECT

Everglades National Park
Monroe County, Florida

The National Park Service (NPS) will rehabilitate the existing potable water system that serves the Flamingo Visitor Center, at the southern end of Everglades National Park. The purpose of the project is to provide safe drinking water for current and projected future needs at the Flamingo developed area.

The project will be undertaken within Flamingo, the largest developed area within Everglades National Park. This site provides lodging, camping, recreational opportunities, educational facilities, and food service for 150,000 visitors each year. In addition, Flamingo contains housing for park staff, maintenance and operations facilities, and infrastructure components. Two freshwater wells, located 16 miles north of Flamingo, presently serve as the source of Flamingo's potable water. These wells are under the direct influence of surface water and contain high levels of organic compounds. Because it takes one day for the water to pass through the 16-mile transmission line to Flamingo, the water is disinfected at the well site. Prior to 2002, chlorination of the well water resulted in high levels of trihalomethanes, a disinfection byproduct and suspected carcinogen. The concentration of trihalomethanes violated drinking water standards. In December 2001, as an interim measure, chlorine treatment at the wells was converted to chloramine (chlorine and ammonia) disinfection, which reduced trihalomethane concentrations to acceptable levels. A new water plant with nanofiltration was constructed to permanently address the drinking water problem. However, leakage along the 16-mile water transmission line prevented adequate flow or pressure in Flamingo to operate the new nanofiltration system. Presently, the combination of chloramine treatment and micro-filtration at the water plant provides the park with safe drinking water, but only on an interim basis due to the continuing deterioration of this aging water treatment system.

The unique environment of the Everglades provides habitat for a myriad of flora and fauna, and their protection is a primary objective of the park. Actions taken to resolve the drinking water problems at Flamingo must also address ecosystem needs by minimizing disturbance, reducing impacts to water quality and hydrology, and by limiting effects to habitats of threatened and endangered species.

PREFERRED ALTERNATIVE

The preferred alternative consists of plugging and abandoning the existing wells (shallow, freshwater) and 16-mile water transmission line, drilling two new (deeper, saltwater) wells near the plant, installing a reverse osmosis treatment system in the existing water treatment plant, and replacing the distribution system on an as needed basis. Brine concentrate from the water treatment plant will be piped to the percolation pond near the wastewater treatment plant. A percolation pond is a constructed holding area where reject water infiltrates into the ground, eliminating surface run-off. When the transmission line from the existing wells to Flamingo is abandoned, water from that source would no longer be available at the West Lake comfort station. A small pumping system would be installed to draw surface water from the lake to use

for toilet flushing. No treated or potable water would be available at the West Lake comfort station.

Unlike the no action alternative, the preferred alternative would ensure a safe and adequate long-term supply of potable water for visitors and park employees. The preferred alternative would result in negligible to minor, long-term beneficial impacts to several resources, including public health and safety, water quality and hydrology, wetlands, wildlife and habitats, and vegetation.

To limit the impacts of construction activities on the natural and human environment, mitigation measures will be utilized throughout project implementation. Such measures will include: performing construction within previously disturbed areas; use of "best management practices" to reduce erosion caused by vegetation removal and soil disturbance; minimizing risk of fuel spills within the park; avoidance of sensitive habitats and restricting construction during osprey nesting season; and actions to be taken in the unlikely event of discovery of archeological resources.

A complete description of the proposed action alternative is on page 13 of the EA, and specific mitigation actions to be included in construction documentation and implemented during construction activities is included on page 30 in Table 4.

In addition, the U.S. Fish and Wildlife Service has prescribed specific steps to be taken to protect the endangered Eastern indigo snake. These measures, described in the attached Errata, will be incorporated during project implementation.

ALTERNATIVES CONSIDERED

The EA evaluated two alternatives in detail: a no-action alternative and the preferred alternative described on page 13 of the EA. In addition, the NPS considered other alternatives early in the planning process but dismissed those options from detailed analysis. Dismissed alternatives and the rational for their dismissal are presented on pages 16 through 18 of the EA.

The No Action Alternative. The existing potable water system, constructed in the 1950s, consists of two wells northeast of Flamingo, a disinfection system at the well site, a 16-mile transmission line to the Flamingo water plant, and an underground distribution system. The well water contains high levels of organic compounds, which produce trihalomethanes when treated with chlorine. Concentrations of these suspected carcinogens exceeded allowable drinking water standards. As an interim measure, chlorine disinfection at the wells was converted to chloramine (chlorine and ammonia), and trihalomethane concentrations have reached acceptable levels. In addition, the deteriorating water distribution system leaks and requires increasing repair. "Boil water" orders have disrupted visitors, employees and concessionaires. Continuation of the no action alternative would not supply a safe and reliable potable water source for Flamingo.

Alternatives considered but rejected

Re-adapt the Existing Nanofiltration Unit. The existing nanofiltration unit within the existing water treatment plant was installed, but never put into operation because leakage from the well transmission line limited the amount/pressure of water necessary for operation of the system. Readapting the plant to nanofiltration, utilizing the existing wells (chloramine and PO_4

treatment), and replacing the transmission/distribution line system would require continued use of hazardous chemicals and excessive time and maintenance.

Connect with the Municipal Water System in Florida City. The cost of developing a 48-mile water transmission line and pump stations from the Florida City Municipal Water Supply to the park would be approximately $19 million. The alternative would also have the potential to encourage commercial and residential development on agricultural lands adjacent to the park.

Deep well injection for reverse-osmosis reject water. Deep well injection for reverse-osmosis reject water would be expensive ($3-4 million in addition to the $2.6 million for Alternative B) and has a low probability of success. Deep well injection requires locating a confinement layer to seal off reject water from groundwater aquifers. The permitting for deep well injection is also complicated and controversial due to the potential for long-term aquifer contamination.

Eco Pond for Reverse-Osmosis Reject Water. The Eco Pond serves as a popular aquatic/wildlife viewing area for this portion of the park, and addition of highly saline reverse-osmosis reject water would adversely affect the wildlife and pond's value as a visitor attraction.

Re-use of treated wastewater. This option would reduce potable water demand and thereby reduce the quantity of brine discharge. The applicable regulation pertaining to this matter is Florida Administrative Code Rule 62-610, Part III. As discussed in the Rule, there are a number of potential uses for reused water. These uses, such as toilet flushing, fire suppression, and vehicle washing, were determined not to be viable Each use has its own environmental impact, such as facility construction and trenching for new piping, which would need to be further analyzed. This dismissed option is more fully described in the attached Errata.

Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying criteria identified in Section 101 of the National Environmental Policy Act (NEPA) to each alternative considered. In accordance with NEPA, the environmentally preferred alternative would best: (1) fulfill the responsibility of each generation as trustee of the environment for succeeding generations; (2) assure for all generations a safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, or other undesirable and unintended consequences; (4) preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice; (5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

As considered in the EA, the preferred alternative to rehabilitate the Flamingo drinking water system is the environmentally preferred alternative. After review of potential impacts to resources and visitors and after incorporating measures to avoid or minimize impacts, the preferred alternative addressed the need for a safe, healthful environment; accommodating a wide range of uses without degrading the environment or posing risks to health and safety; and achieving a balance between resource and visitor use.

Specifically, the preferred alternative would provide a higher level of health and safety for visitors and park employees when compared to the no action alternative by providing a dependable supply of potable water that would consistently meet all federal, state, and local standards. Reverse-osmosis is a proven technology, providing an efficient and reliable system for ensuring the park has an adequate long-term supply of potable water. Abandoning the existing wells and 16-miles of leaky transmission lines will lessen the impact on one of the park's exceptional wetlands. Centralizing the water treatment components that comprise this system would also lessen the burden on park staff, reducing downtime now associated with travel to and from the well site. This compact system would also affect less surface area of the park, increase maintenance efficiency, and reduce maintenance activities that have the potential to disrupt wildlife movements and habitat and cause disruption to the visitor experience.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

Consideration of effects described in the EA and a finding that they are not significant is a necessary and critical part of this FONSI as required by 40 CFR 1508.13. Significance criteria are defined in 40 CFR 1508.27 to consider direct, indirect, and cumulative impacts and the context and intensity of impacts. Mitigation measures described in the EA and incorporated into the preferred alternative, including pre- and post-construction water quality monitoring and documentation, are generally required by laws, regulations, or NPS policies and are adopted by this decision.

Context

This measure of significance considers the setting within which an impact was analyzed in the EA, such as the affected region, society as a whole, affected interests, and/or a locality. In the EA, the intensity of impacts was evaluated within a local (i.e., project area) context, while the intensity of the contribution of effects to cumulative impacts is evaluated in a regional (i.e., park-wide) context or, in the case of special status species, within the context of a species range. This decision and the preferred alternative affect only the immediate local area, in terms of resources and visitors. Therefore, any possible impact is limited to this level of least significance.

Intensity

This measure of significance refers to the severity of impacts, which may be both beneficial and adverse, and considers measures that would be applied to minimize or avoid impacts (mitigation measures). The intensity of an impact, if any, is discussed below for each stated criteria. As defined in 40 CFR 1508.27, significance is determined by evaluating the following criteria:

Degree of effect on public health or safety. Implementation of the preferred alternative will eliminate contamination of the groundwater supply by surface water and reduce generation of trihalomethanes, known carcinogens, during disinfection. In addition, the 16-mile transmission line would be abandoned, eliminating the risk of infiltration of pathogens along the corridor. By reducing these risks of contamination, short and long-term, minor, beneficial effects on public health and safety would result. During construction activities associated with installation of the new system components (including piping), the NPS will institute measures to protect visitors and staff such as posting signs and placing barriers and flagging. No significant effects on public health and safety would be expected.

Degree of effect on unique characteristics of the potentially affected area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. Because all disturbance associated with the preferred alternative occurs on fill and in previously disturbed areas, there would be no detectable effects on cultural resources resulting from implementation of this alternative. The Florida Division of Historical Resources concurred with this "no effect" finding in a letter dated August 14, 2002.

No historic buildings, structures, or other historic resources have been identified within the Flamingo developed area. Nor have any structures been listed or determined eligible for listing in the National Register of Historic Places. There are no prime or unique farmlands or wild and scenic rivers near the project area.

The preferred alternative will not impair wetlands, deepwater habitats, and/or jurisdictional waters.

Under the proposed action, the new water system would contribute both beneficial and adverse effects to wetlands and floodplains the project area. Eliminating freshwater withdrawal at the existing wells and abandoning the 16-mile transmission main would yield long-term, negligible to minor, beneficial, localized effects to wetlands at the well site and along the utility corridor. Purging the new system and releasing 2,000 gallons of saltwater into nearby mangroves would produce an adverse, but negligible effect in the mangrove wetland. Brine infiltration from the percolation pond would increase salt-tolerant species and produce minor, long-term localized, adverse effects to vegetation over an area of approximately 5 to 10 acres. Under the preferred alternative, water supply components would be centralized, reducing the flood hazard. This would result in long-term, minor beneficial effects to the floodplain of the project area.

The degree to which effects on the quality of the human environment are likely to be highly controversial. The purpose of this project is to provide a safe and dependable drinking water system for visitors and staff and Flamingo. This project is not highly controversial, as evidenced by the public and agency responses received during the public review period.

The degree to which the possible effects on the human environment is highly uncertain or involves unique or unknown risks. Rehabilitation of the water system serving Flamingo would provide increased protection from water system contamination and enhance water treatment system reliability. This would result in short and long-term, beneficial effects of minor intensity that would extend to all local water users. Unique or unknown risks are not anticipated.

The degree to which the action may establish a precedent for future actions with significant impacts. The preferred alternative does not set a precedent for future actions with potentially significant impacts or represent a decision in principle about future considerations. Future actions entailing rehabilitation or replacement of park facilities will be evaluated through additional, project-specific planning processes that incorporate requirements of the National Environmental Policy Act, NPS policies, and Everglades National Park planning and management philosophies.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by

breaking it down into smaller parts. As described in the EA on pages 28 through 75 (and as summarized in Table 2 on pages 19-22), the proposed action will affect vegetation, wildlife, water quality, wetlands, visitor experience, and public health and safety. Special status species may be affected, although adverse affects are not anticipated. Some resources will be adversely affected over the short-term during installation of the new water system components. However, the preferred alternative will result in long-term, beneficial effects to public health and safety, wetlands, and water quality.

Also as described in the EA, are a variety of past and present actions that have affected resources in the vicinity of the Flamingo Visitor Center. This environment is highly altered from its native condition. Large-scale manipulations of hydrology and urban/agricultural development in South Florida have adversely affected natural wetlands, vegetative communities, and wildlife species. The proposed action will contribute negligibly to the adverse effects of these other actions (see "Cumulative Impact" sections of the EA under "Environmental Consequences", pages 28 through 75).

The degree to which the action may adversely affect items listed or eligible for listing in the National Register of Historic Places, or other significant scientific, cultural or historic resource as indicated under Section 106 of the National Historic Preservation Act. As described in the environmental assessment on pages 67 through 70, it is highly unlikely that cultural or historical resources will be adversely affected.

The degree to which the action may adversely affect an endangered or threatened species or its critical habitat. The limited disturbance necessary to complete the new water, in concert with other planned management activities in Flamingo, would not be likely to make a detectable contribution to effects on endangered and threatened species within the treatment area or in the park. The effects to federally listed species under the preferred alternative range from “no effect” to “may affect, not likely to adversely affect." Additionally, there would be no adverse effects to the designated critical habitats of any of these species. Abandonment of the 16-mile water transmission line would benefit species that inhabit the corridor because disturbance associated with maintenance and repair would be eliminated. Replacing portions of the distribution system, as needed, and installation of 300-feet of brine discharge piping to the percolation pond would require short-term disturbance that would produce little effect on these species or their habitats.

Whether the action threatens a violation of Federal, State or local law or requirements imposed for the protection of the environment. The preferred alternative was developed to assure that Flamingo drinking water quality meets all applicable criteria. Implementation of this action violates no federal, state, or local environmental protection laws, but rather enhances the park’s compliance with these regulations.

Consideration of Impairment Pursuant to National Park Service Policies. In addition to determining the environmental consequences of the preferred and other alternatives, NPS policy (Management Policies 2001) requires analysis of potential effects to determine whether or not actions would impair park resources. Policies clarifying terms pertaining to "impairment", as well as a prohibition on impairment and what constitutes impairment, are found in Management Policies 2001 (Sections 1.4.2 through 1.4.7), which are summarized below.

The fundamental purpose of the National Park System, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park

resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values.

However, the laws do give the NPS the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the NPS the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise.

Prohibited impairment may include any impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park resource or value may constitute impairment. An impact more likely would constitute impairment to the extent it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents.

There will be no major impacts to resources whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Everglades National Park; (2) key to the natural or cultural integrity of the Everglades National Park or to opportunities for enjoyment of the National Park; or (3) identified as a goal in the National Park's general management plan or other relevant NPS planning documents. The preferred alternative will not result in impairment of resources or values at Everglades National Park.

PUBLIC INVOLVEMENT

Public scoping is an early and open process to solicit public and internal concerns relating to a proposed action. The Council on Environmental Quality guidelines for implementing the National Environmental Policy Act and the National Park Service's guidelines contained in *Director's Order No. 12: Conservation Planning, Environmental Impact Analysis and Decision Making Handbook* require public scoping of federal actions that will require an environmental impact statement. Although public scoping is not required for an environmental assessment, the National Park Service conducted scoping on potable water management upgrades for the Flamingo developed area to ensure that input was obtained from all interested stakeholders. A five-page scoping brochure was distributed to 600 individuals, organizations, agencies, and Indian Tribes, and posted on the park's web site. The park also held two public scoping workshops in May 2002, one in Everglades National Park and one in Florida City.

The Seminole and Miccosukee tribes have demonstrated interest in the areas near Flamingo at Everglades National Park. The park sent letters regarding the proposed action to these tribes on May 24, 2002. Copies of the letters sent to the tribal representatives are in Appendix B of the EA. The park received no response to the scoping inquiries from either tribe.

During development of this environmental assessment, the park contacted the national Advisory Council on Historic Preservation in Washington D.C. and the Florida State Historic Preservation Officer regarding the project. A copy of the letter sent to the Florida State Historic Preservation Officer and Advisory Council are in Appendix B of the EA. . The Florida Division of Historical Resources concurred with the park service finding of "no effect" in a letter dated August 14, 2002.

The U.S. Fish and Wildlife Service was contacted by letter regarding this project on May 16, 2002. A copy of this letter requesting verification of threatened and endangered species in the project area is located in Appendix B of the EA. During their review of the project and its effects, the Fish and Wildlife Service concluded a "may affect, not likely to adversely affect" finding for the Eastern indigo snake. This differs from the "no effect" finding reported in the EA. In addition, specific mitigation measures to protect this species were provided. Details of this finding and associated mitigation measures are included in the attached Errata.

The Florida Department of Environmental Protection was contacted regarding this project on May 24, 2002. This letter may also be found in Appendix B. The department replied by e-mail that they had no comment at the time. The park is continuing to communicate with the department regarding this project.

The Flamingo Potable Water System Improvement Project Environmental Assessment was available for public review from July 12 through August 13, 2002. A total of six responses from the public and agencies were received by the park. The one response from an interested individual was supportive of the project and agreed that the preferred alternative offered an acceptable long-term solution to Flamingo's potable water needs.

CONCLUSION

The preferred alternative does not constitute an action that normally requires the preparation of an environmental impact statement (EIS), and the preferred alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are negligible to minor. There are no unmitigated, adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. In addition, no highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence have been identified and implementing the preferred alternative will not violate any federal, state, or local environmental protection law. There will be no impairment of park resources or values resulting from implementation of the preferred alternative.

Based on the foregoing, the NPS has determined the preferred alternative will not have a significant effect on the human environment, that an EIS is not required for this project, and that an EIS will not be prepared.

Recommended: Maureen Finnerty — 9/18/02
Superintendent, Everglades National Park — Date

Approved: W. Thomas Brown — 9/20/02
for Southeast Regional Director — Date

ERRATA

Seven letters were received in response to the EA. Attached are the park responses to the public and agency comments. Also included are editions to the text of the Environmental Assessment and a listing of specific mitigation measures for protection of the Eastern indigo snake.

ERRATA SHEETS
FLAMINGO POTABLE WATER SYSTEM IMPROVEMENTS
ENVIRONMENTAL ASSESSMENT
EVERGLADES NATIONAL PARK

A total of six comments on the Flamingo Potable Water System Improvements Environmental Assessment (EA) were received during or within five business days after the 30-day public review period, July 12 through August 13, 2002. Five of the comments received were from consultative and regulatory agencies and one from an individual. Some of the substantive comments required a change in the text of the EA and are reflected in the **Changes in the Environmental Assessment Text** section below. The remaining substantive comments are addressed in the **Response to Comments** section of these errata sheets. The combination of the EA and the errata sheets form the complete and final record on which the FONSI is based.

CHANGES IN THE ENVIRONMENTAL ASSESSMENT TEXT

1. **Page 1, Park Mission and Significance.** Revise the 4th bullet point to read: "Provides sanctuary for 21 threatened and endangered species."

2. **Page 13, Alternative B: The Preferred Alternative.** Following the 5th paragraph, insert the following as a new 6th paragraph:

   "The NPS will conduct (either in-house or via private contractor) a monitoring program that includes pre- and post-project monitoring of surface salinity in Buttonwood Canal and vegetative species composition and coverage along the canal banks and along the suspected groundwater flow way from the percolation pond. If monitoring demonstrates that water quality and/or the vegetative community is significantly degraded as a result of completion of this project, the park will take corrective actions."

3. **Pages 16-17, Alternatives considered but rejected.** On page 17, following the paragraph on "Eco Pond for Reverse-Osmosis Reject Water", insert the following text on an additional alternative that was considered but rejected:

   *Re-use of treated wastewater***.** During public scoping for this project and the Flamingo Wastewater System Improvements project, some reviewers raised the possibility of reuse of treated wastewater, in order to reduce potable water demand and thereby reduce the quantity of brine discharge. The applicable regulation pertaining to this matter is Florida Administrative Code (FAC) Rule 62-610, Part III, Slow-Rate Land Application Systems; Public Access Area, Residential Irrigation, and Edible Crops.

   As discussed in the Rule, there are a number of potential uses for reused water. These uses were individually determined not to be viable as explained below. Additionally, these potential uses have their own environmental impacts, such as facility construction and the trenching of new distribution piping, which would need to be further analyzed.

Landscape irrigation: The landscape in Flamingo is not irrigated. Therefore, wastewater reuse for this purpose would not lower potable water demand. This area already receives a high amount of rainfall, and irrigation would increase the growth rate of the lawns, thereby increasing maintenance costs associated with mowing.

Vehicle and boat washing: Facilities for washing vehicles do not exist in Flamingo. Government and concessionaire boats are often hosed down with fresh water while in the water. The quantity of water used for such cleaning is considered insignificant, and discharge of reused water would not be permitted to surface waters (Outstanding Florida Waters).

Fire protection (hydrants and building sprinklers): Fire flows are rare, and potential water savings are negligible.

Flushing of sanitary sewers and cleaning of roads, sidewalks, and outdoor work areas: A program for the flushing of sanitary sewers does not exist in Flamingo. Water use for the cleaning of roads, sidewalks, and outdoor work areas is either non-existent of negligible.

Toilet flushing: Although the motel and concessioner employee apartments could be retrofitted for wastewater reuse, the number of hotel guests and residential concession employees is highly seasonal and is minimal to zero for many months of the year. Additionally, the costs associated with converting toilets for wastewater reuse are substantial."

4. **Page 49, ENDANGERED, THREATENED OR PROTECTED SPECIES AND CRITICAL HABITATS Affected Environment.** In the first paragraph, replace the second sentence and reference to NPS 1997 with the following text: "Fourteen endangered and seven threatened species are found in the four south Florida units of the National Park System – Big Cypress National Preserve, Everglades National Park, Biscayne National Park and Dry Tortugas National Park."

5. **Page 51, Cape Sable seaside sparrows.** Replace the second sentence of the first paragraph with the following text: "The sparrow is found almost entirely within Everglades National Park and the Big Cypress National Preserve."

6. **Page 58, Impacts to Endangered, Threatened or Protected Species and Critical Habitats of Alternative B: The Preferred Alternative. Eastern indigo snake.** Based on informal consultation with the U.S. Fish and Wildlife Service, the impact determination for the Eastern indigo snake under the preferred alternative was changed. Replace the existing text for this section with the following paragraph:

"During installation of the new water system components, small areas of surface disturbance would be present for the time necessary to complete pipe bursting and saltwater well installation. These actions would take place in the developed area of Flamingo. Actions taken to install the new water system at Flamingo may affect, but are not likely to adversely affect, the Eastern indigo snake."

7. **List of Appendices.** Following Appendix E, add a new Appendix F as follows:

Appendix F. Eastern Indigo Snake Conservation and Protection Plan

The National Park Service (NPS) will implement an Eastern indigo snake conservation and protection plan for the entire length of the proposed project corridor that traverses suitable Eastern indigo snake habitat. This plan is Everglades National Park's (the park) proposal to minimize adverse effects from implementation of the proposed project to the Eastern indigo snake. Components of the plan are listed below:

1. The park will minimize the potential of heavy equipment injuring or killing an Eastern indigo snake by incorporating the Standard Protection Measures for the Eastern Indigo Snake in the project design (see below).

2. The park will obtain all appropriate handling and relocation permits for work with the Eastern indigo snake. Copies of all permits will be forwarded to the U.S. Fish and Wildlife Service's (USFWS) South Florida Ecological Services Office, Vero Beach, Florida.

3. To further minimize potential adverse effects to the Eastern indigo snake, the park will implement a relocation plan that includes the following:

    a. staked silt fence will be installed along the entire project area that supports either tortoise or wetland habitats to limit emigration of Eastern indigo snakes onto the project limits. The silt fence will be buried in the ground and extend up 2 feet;

    b. immediately prior to clearing and grubbing activities, all potentially suitable denning areas (e.g. gopher tortoise burrows [active, inactive, and abandoned], rat holes, tree stumps) within the project area will be scoped for the presence of Eastern indigo snakes. If an Eastern indigo snake is not discovered, the denning area will be collapsed to prevent reentry by snakes;

    c. all observed Eastern indigo snakes will be captured, transported and released immediately outside of the silt fence project area boundary. All relocated individuals will be released on the side of the project area that has the greatest amount of remaining indigo snake habitat;

    d. during clearing and grubbing activities, the project area fence will be walked each morning. If an Eastern indigo snake is discovered, it will be captured and relocated using the same protocol as 2.c above;

    e. if clearing and grubbing activities occur in discrete sections, this process will be repeated in each applicable section;

    f. only individuals with the appropriate handling permits will be authorized to capture and relocate Eastern indigo snakes;

g. all captured Eastern indigo snakes will be released as soon as possible in appropriate habitat; and

h. upon completion of all surveys and relocations, a report detailing the results of all Eastern indigo snake surveys and relocations will be submitted to the USFWS.

To implement the above Eastern indigo snake protective measures, the park will comply with the following *Standard Protection Measures for the Eastern Indigo Snake* :

1. An Eastern indigo snake protection/education plan shall be developed by the park for all construction personnel to follow. The plan shall be provided to the USFWS for review and approval at least 30 days prior to any clearing activities. The education materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (e.g., an observer trained to identify Eastern indigo snakes could use the protection/education plan to instruct construction personnel before and clearing activities occur). Informational signs should be posted throughout the construction site and contain the following information:

   a. a description of the Eastern indigo snake, its habits, and protection under Federal Law;

   b. instructions not to injure, harm, harass or kill this species;

   c. directions to cease clearing activities and allow the Eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and

   d. telephone numbers of pertinent agencies to be contacted if a dead Eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water, then frozen.

2. Only an individual who has been either authorized by a section 10(a)(1)(A) permit issued by the USFWS, or authorized by the Florida Fish and Wildlife Commission (FWC) for such activities, is permitted to come into contact with or relocate an Eastern indigo snake.

3. If necessary, Eastern indigo snakes shall be held in captivity only long enough to transport them to the release site; at no time shall two snakes be kept in the same container during transportation.

4. An Eastern indigo snake monitoring report must be submitted to the appropriate USFWS Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted when any Eastern indigo snakes are observed or relocated. The report should contain the following information:

   a. results of the tortoise burrow and field surveys;

   b. any sightings of Eastern indigo snakes;

   c. summaries of any relocation activities for the project (e.g., locations of where and when they were found and relocated); and

   d. other obligations required by the FWC, as stipulated in the permit."

RESPONSE TO COMMENTS

Comments from the U. S. Environmental Protection Agency (EPA)

"Our main concerns over completion of the project as proposed are the potential adverse impacts to the water quality and biological community of the Buttonwood Canal. It is acknowledged in the environmental assessment that the high salinity of the infiltrating water from the percolation pond will result in minor, long-term, adverse, localized effects to water quality and hydrology. We suggest the preferred alternative be modified to include a monitoring program that includes pre- and post-project monitoring of surface salinity in Buttonwood Canal and vegetative species composition and coverage along the canal banks and along the suspected groundwater flow way from the percolation pond. If monitoring demonstrates that the water quality and/or vegetative community is significantly degraded as a result of completion of this project as proposed, corrective actions will be required."

Response to the EPA

The NPS agrees that pre- and post-project vegetation and salinity monitoring should be performed in the area surrounding the brine concentrate disposal site, including Buttonwood Canal. The park is amending its preferred alternative to require a monitoring program and any corrective action that may be required. (Text change No. 2.)

Comments from the U. S. Fish and Wildlife Service (FWS)

"The proposed action is not expected to significantly impact fish and wildlife resources based on information provided. The Service concurs with the Federal agency determination of "may affect, not likely to affect" pursuant to the Endangered Species Act of 1973 (16 U.S.C.1531 *et seq.)* and does not object pursuant to the Fish and Wildlife Coordination Act of 1958 (16 U.S.C. 661 *et seq.*).

"Eastern Indigo Snake**.** Although the Park Service had originally made the determination of "no effect" for this species, upon further consideration of its presence in the area and its terrestrial nature, the Park has concluded that the proposed actions may effect but would not likely adversely affect, the Eastern indigo snake. This change will be addressed in an errata sheet, to be produced following the public comment period."

"The applicant [the Park] will implement an Eastern indigo snake conservation and protection plan for the entire length of the proposed project corridor that traverses suitable Eastern indigo snake habitat. This plan is the Park's proposal to minimize adverse effects from implementation of the proposed project to the Eastern indigo snake."

Response to the FWS:

The NPS has amended the impact analysis section for the Eastern indigo snake under the preferred alternative to a determination of "may affect, not likely to adversely affect." (Text change No. 6)

The NPS will incorporate the Eastern indigo snake protection measures provided by the FWS as an appendix to the Environmental Assessment, and will apply best professional judgement in the interest of indigo snake conservation and protection when implementing these measures. (Text change No. 7)

Comments from the South Florida Water Management District (SFWMD).

"The preferred alternative will require modification of the Park's existing Consumptive Use Permit from the District. Any permitted water use proposing shifting the water source, requires this modification, even if there is no increase in the allocated amount. Please contact the District's Water Use Regulation Division to facilitate the permit modification process."

"The preferred alternative proposes Reverse Osmosis treatment with disposal of brine reject water through existing percolation ponds. This will require a permit from the [Florida] Department of Environmental Protection. Please contact the Department to facilitate permitting the treatment and brine disposal facilities."

Response to the SFWMD:

The NPS understands that the requirement for a SFWMD consumptive use permit modification would not apply, because the new wells will produce saltwater. Section 3.2 of the *Rules of the South Florida Water Management District, Basis of Review for Water Use Permit Applications* provides that "Applicants using seawater or reclaimed water to meet their total water needs are not required to obtain water use permits." Seawater is defined in Section 1.8 as "An aqueous solution with a chloride concentration equal to or greater than 19,000 mg/l."

The NPS understands that it will need a permit from the Florida Department of Environmental Protection (FDEP) for the reverse osmosis concentrate discharge, and has been communicating with the FDEP regarding these issues in order to obtain the permit.

Comments from the South Florida Regional Planning Council (SFRPC)

"Staff recognizes the location of this project as being within Everglades National Park, located adjacent to Florida Bay, and located over the Biscayne Aquifer, all of which are Natural Resources of Regional Significance designated in the *Strategic Regional Policy Plan for South Florida* (SRPP). The goals and policies of the SRPP for South Florida, in particular those indicated below, should be considered when making decisions regarding this project"

"Strategic Regional Goal 2.3: Enhance the economic competitiveness of the region and ensure the adequacy of its public facilities and services by eliminating the existing backlog, meeting the need for growth in a timely manner, improving the quality of services provided and pursuing cost-effectiveness and equitability in their production, delivery and financing."

"Regional Policy 2.3.22: Encourage the application of resource recovery, recycling, cogeneration, district cooling, water re-use systems, and other appropriate mechanisms where they are cost-effective and environmentally sound, as means of reducing the impacts of new

development on existing public facilities and services, and the costs of providing new public facilities and services."

"Strategic Regional Goal 3.9.1: Restore and protect the ecological values and functions of the Everglades System."

"Regional Policy 3.9.5: Conserve water entering the Everglades system and increase the self sufficiency of urban and agricultural water supplies by: a) creating water storage areas near or within urban areas; b) promoting increased efficiency of water use in agriculture, business uses and residential use; and c) promoting the development of alternative water supply sources."

"Regional Policy 3.9.6: Restore water quality throughout the system by: a) requiring stormwater treatment and storage areas for existing and newly developed areas and agricultural lands; and b) protecting existing wetlands, native uplands and identified aquifer recharge areas."

Response to the SFRPC:

The NPS has reviewed the goals and policies of the *Strategic Regional Policy Plan for South Florida* (SRPP) and has concluded that the preferred alternative is consistent with the SRPP. The NPS would like to address several of the goals and policies specifically:

Strategic Regional Goal 2.3: The preferred alternative would ensure the adequacy of public facilities and services by providing safe, reliable drinking water for park visitors and employees in an environmentally sound and cost-effective manner.

Regional Policy 2.3.22: The preferred alternative would ensure an environmentally sound and cost-effective means of providing safe, reliable drinking water. No natural areas would be cleared, and several mitigating measures as well as a monitoring program would be put in place to ensure resource protection. The preferred alternative would also end the pumping of water from a high-quality freshwater wetlands, and replace it with a reverse-osmosis system whereby saltwater would be converted to usable form.

Regional Policy 3.9.1: The preferred alternative would end the current practice of pumping water from the freshwater wetlands of Everglades National Park, and the 16-mile transmission line would be purged and abandoned in place. By eliminating freshwater draw-down and discharge of treated water, a beneficial effect would accrue to the wetland environment, as detailed in the environmental assessment .

Regional Policy 3.9.5: (a) The preferred alternative would help conserve fresh water in the Everglades ecosystem by using saltwater and a reverse osmosis system to provide drinking water. (c) The proposed project can be considered as an alternative water supply system.